

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A blood pumping system, for supplementing distal blood perfusion, comprising: a blood pressure altering device including an upstream end and a downstream end; wherein said blood pressure altering device cooperates with a circulatory system to promote blood flow throughout at least one or more distal regions including limbs, a brain region or a pelvic region of a patient by altering vascular blood pressure; whereby said blood pressure altering device, when in use, is positioned in series with the normal blood flow of the circulatory system of a patient.
2. The system as in claim 1 wherein the blood pressure altering device, when in use, increases blood pressure in a localised region.
3. The system as in claim 2 wherein the blood pressure altering device is a blood pump.
4. The system as in claim 2 wherein the system provides a means of vascular regeneration, when in use.
5. The system of claim 3 wherein the blood pump comprises an inlet and an outlet for connection to the circulatory system of a patient.
6. The system of claim 5 wherein the inlet is connected to an arterial system of the patient.
7. The system of claim 5 wherein the inlet is connected to a venous system of the patient.
8. The system of claims 6 or 7 wherein the outlet is connected to an arterial

system of the patient.

9. The system of claims 5, 6, 7 or 8 wherein the inlet or outlet includes cannulae extensions to allow variable positioning of the blood pump.

10. The system as in claim 5 wherein the blood pump has a relatively flat H-Q curve characteristic.

11. The system as in claim 5 wherein delivered blood pressure is relatively constant and is relatively accurately determined by pump speed without the need for an implanted sensor.

12. The system as in claim 5 wherein said system includes a flow-back shunt to allow blood to flow from an outlet of the blood pump back to an inlet of the blood pump.

13. The system as in claim 12 wherein said flow-back shunt includes a flow resistor that is capable of restricting blood flow through flow-back shunt.

14. The system as in claim 13 wherein said flow resistor is regulated externally.

15. The system as in claim 5 wherein said system includes at least one fistula, when in use, connected between the outlet and a desired site in the venous system to allow blood flow communication between said outlet and said site in the venous system.

16. The system as in claim 15 wherein said fistula includes a variable regulator for controlling blood rate within said fistula.

17. The system as in any one of the preceding claims wherein said system

supplements distal blood perfusion on a short term basis.

18. The system as in any one of the preceding claims wherein said system supplements distal blood perfusion on a long term basis.

19. The system as in claims 17 or 18 wherein said blood pump is implantable.

20. The system as in claim 19 wherein said system includes an implantable power source and implantable controller both to cooperate with said blood pump.

21. The system as in claims 17 or 18 wherein said blood pump is external to the body of the patient.

22. The system as in claims 17 or 18 wherein said system is supplemented by a regime of pharmaceuticals given to the patient that promote revascularisation of distal regions of blood circulation.

23. The system as in claims 17 or 18 wherein said system is supplemented by a regime of pharmaceuticals given to the patient that promote vascular dilatation of distal regions and neovascularisation of patient's circulatory system.

24. The system as in claims 17 or 18 wherein the circulatory system is reinforced with stenting.

25. The system as in claims 17 or 18 wherein said system includes at least one sensor to measure effectiveness of supplementing distal blood perfusion.

26. The system as in claims 17 or 18 wherein said blood pressure altering

device includes at least one additional outlet for connection to a haemodialysis system. The system herein described with reference to the accompanying drawings.

29. A blood pumping system, for perfusing a distal region of a patient's circulatory system, comprising: a blood pressure altering device, wherein said blood pressure altering device is in fluid communication with said circulatory system, and wherein said blood pressure altering device pumps blood so as to create a localised hypertensive region in said distal region.

29. The system as claimed in claim 28, wherein said blood pressure altering device is located in a position remote from the heart of the patient.

30. The system as claimed in claim 28, wherein said distal region includes a portion of the arterial blood supply of the circulatory system.

31. The system as claimed in claim 28, wherein said system supplies a continuous suprasystolic pressure in both systole and diastole.

32. The blood pumping system as claimed in claim 28, wherein said blood pressure altering device is positioned in series with the normal blood flow of a circulatory system.

33. The blood pumping system as claimed in claim 28, wherein said localised hypertensive region is created downstream from the blood pressure altering device.

34. The blood pumping system as claimed in claim 28, wherein the blood pressure altering device is a pump.

- 35. The blood pumping system as claimed in claim 28, wherein said system
- provides a means of vascular regeneration.

36. The blood pumping system as claimed in claim 28, wherein said blood
pumping system includes a flow resistor.

37. The blood pumping system as claimed in claim 28, wherein said blood
pressure altering device is implantable within the body of a patient.

38. The blood pumping system as claimed in claim 28, wherein said blood
pressure altering device has a relatively flat flow pressure curve characteristic.